

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Minoru Yoshida et al.      Art Unit : 1615  
Serial No. : 10/505,380      Examiner : Unknown  
Filed : August 20, 2004  
Title : HISTONE DEACETYLASE INHIBITORS AND METHODS FOR PRODUCING  
THE SAME

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL

The following correspondence relating to this application is enclosed for filing:


1. Information Disclosure Statement;
2. Form PTO-1449;
3. Copies of Cited References;
4. Copy of the translation of the International Search Report;
5. Copy of the translation of the International Preliminary Examination Report; and
6. A Return Postcard.

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Respectfully submitted,

Date: July 12, 2005

  
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INFORMATION DISCLOSURE STATEMENT

Copies of the references listed on the attached form PTO-1449 are enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office Action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Substituted Form PTO-1449 (Modified) JUL 14 2005 PATENT & TRADEMARK OFFICE	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 18115-002US1	Application No. 10/505,380
	<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		
	Filing Date August 20, 2004	Group Art Unit 1615	

**U.S. Patent Documents**

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	2002/0120099 A1	08/29/2002	Nishino et al.			

**Foreign Patent Documents or Published Foreign Patent Applications**

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AB	2 317 003	08/28/2001	Canada				
	AC	1 174 438 A1	01/23/2002	EPO				
	AD	2000256397	09/19/2000	Japan			Abstract	
	AE	2001316283	11/13/2001	Japan			Abstract	
	AF	2002527449T	08/27/2002	Japan			Abstract	
	AG	2003505417T	02/12/2003	Japan			Abstract	
	AH	WO 00/21979	04/20/2000	WIPO				
	AI	WO 00/52033	09/08/2000	WIPO			Abstract	
	AJ	WO 01/07042	02/01/2001	WIPO				

**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AK	Bernhard et al., "Interaction between dexamethasone and butyrate in apoptosis induction: non-additive in thymocytes and synergistic in a T cell-derived leukemia cell line," <u>Cell Death and Differentiation</u> , 1999, 6(7):609-617
	AL	Boivin et al., "Antineoplastic action of 5-aza-2'-deoxycytidine and phenylbutyrate on human lung carcinoma cells," <u>Anti-Cancer Drugs</u> , 2002, 13(8):869-874
	AM	Cameron et al., "Synergy of demethylation and histone deacetylase inhibition in the re-expression of genes silenced in cancer," <u>Nature Genetics</u> , 1999, 21(1):103-107
	AN	Chen et al., "Reactivation of silenced, virally transduced genes by inhibitors of histone deacetylase," <u>Proc. Natl. Acad. Sci. USA</u> , 1997, 94:5798-5803
	AO	Coffey et al., "The Histone Deacetylase Inhibitor, CBHA, Inhibits Growth of Human Neuroblastoma Xenografts <i>In Vivo</i> , Alone and Synergistically with <i>All-Trans</i> Retinoic Acid," <u>Cancer Research</u> , 2001, 61(9):3591-3594
	AP	Colletti et al., "Broad Spectrum Antiprotozoal Agents that Inhibit Histone Deacetylase: Structure-Activity Relationships of Apicidin. Part 2," <u>Bioorganic &amp; Medicinal Chemistry Letters</u> , 2001, 11:113-117
	AQ	Colletti et al., "Design and synthesis of histone deacetylase inhibitors: the development of apicidin transition state analogs," <u>Tetrahedron Letters</u> , 2000, 41:7837-7841
	AR	Darkin-Rattray et al., "Apicidin: A novel antiprotozoal agent that inhibits parasite histone deacetylase," <u>Proc. Natl. Acad. Sci. USA</u> , 1996, 93:13143-13147

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Form PTO-1449 Modified JUL 14 2005 INFORMATION DISCLOSURE STATEMENT by Applicant (Use several sheets if necessary) (37 CFR 54.99(b)) PATENT & TRADEMARK OFFICE	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 18115-002US1	Application No. 10/505,380
	Applicant Minoru Yoshida et al.		
	Filing Date August 20, 2004	Group Art Unit 1615	

## Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AS	Dhordain et al., "Corepressor SMRT binds the BTB/POZ repressing domain of the LAZ3/BCL6 oncoprotein," <i>Proc. Natl. Acad. Sci. USA</i> , 1997, 94:10762-10767
	AT	Dion et al., "Amplification of Recombinant Adenoviral Transgene Products Occurs by Inhibition of Histone Deacetylase," <i>Virology</i> , 1997, 231:201-209
	AU	Ferrara et al., "Histone Deacetylase-targeted Treatment Restores Retinoic Acid Signaling and Differentiation in Acute Myeloid Leukemia," <i>Cancer Research</i> , 2001, 61(1):2-7
	AV	Finnin et al., "Structures of a histone deacetylase homologue bound to the TSA and SAHA inhibitors," <i>Nature</i> , 1999, 401:188-193
	AW	Fischle et al., "A New Family of Human Histone Deacetylases Related to <i>Saccharomyces cerevisiae</i> , HDA1p," <i>J. Biol. Chem.</i> , 1999, 274(17):11713-11720
	AX	Furumai et al., "Potent histone deacetylase inhibitors built from trichostatin A and cyclic tetrapeptide antibiotics including trapoxin," <i>Proc. Natl. Acad. Sci. USA</i> , 2001, 98(1):87-92
	AY	Furumai et al., "FK228 (Depsipeptide) as a Natural Prodrug That Inhibits Class I Histone Deacetylases," <i>Cancer Research</i> , 2002, 62(17):4916-4921
	AZ	Göttlicher et al., "Valproic acid defines a novel class of HDAC inhibitors inducing differentiation of transformed cells," <i>EMBO J.</i> , 2001, 20(24):6969-6978
	AAA	Grignani et al., "Fusion proteins of the retinoic acid receptor- $\alpha$ recruit histone deacetylase in promyelocytic leukaemia," <i>Nature</i> , 1998, 391:815-818
	ABB	He et al., "Distinct interactions of PML-RAR $\alpha$ and PLZF-RAR $\alpha$ with co-repressors determine differential responses to RA in APL," <i>Nature Genetics</i> , 1998, 18:126-134
	ACC	Hoshikawa et al., "Expression of Differentiation-related Markers in Teratocarcinoma Cells via Histone Hyperacetylation by Trichostatin A," <i>Agric. Biol. Chem.</i> , 1991, 55(6):1491-1495
	ADD	Hubbert et al., "HDAC6 is a microtubule-associated deacetylase," <i>Nature</i> , 2002, 417:455-458
	AEE	Inokoshi et al., "Neuronal Differentiation of Neuro 2a Cells by Inhibitors of Cell Cycle Progression, Trichostatin A and Butyrolactone I," <i>Biochem. Biophys. Res. Comm.</i> , 1999, 256(2):372-376
	AFF	Ito et al., "p300/CBP-mediated p53 acetylation is commonly induced by p53-activating agents and inhibited by MDM2," <i>EMBO J.</i> , 2001, 20(6):1331-1340
	AGG	Juan et al., "Histone Deacetylases Specifically Down-regulate p53-dependent Gene Activation," <i>J. Biol. Chem.</i> , 2000, 275(27):20436-20443
	AHH	Kim et al., "Oxamflatin is a novel antitumor compound that inhibits mammalian histone deacetylase," <i>Oncogene</i> , 1999, 18:2461-2470
	AII	Kim et al., "Histone deacetylases induce angiogenesis by negative regulation of tumor suppressor genes," <i>Nature Medicine</i> , 2001, 7(4):437-443
	AJJ	Komatsu et al., "Cyclic Hydroxamic-acid-containing Peptide 31, a Potent Synthetic Histone Deacetylase Inhibitor with Antitumor Activity," <i>Cancer Research</i> , 2001, 61(11):4459-4466
	AKK	Kwon et al., "Histone Deacetylase Inhibitor FK228 Inhibits Tumor Angiogenesis," <i>Int. J. Cancer</i> , 2002, 97:290-296
	ALL	Li et al., "Causal Relationship between the Loss of <i>RUNX3</i> Expression and Gastric Cancer," <i>Cell</i> , 2002, 109(1):113-124
	AMM	Lin et al., "Role of the histone deacetylase complex in acute promyelocytic leukaemia," <i>Nature</i> , 1998, 391:811-814
	ANN	Marks et al., "Histone Deacetylase Inhibitors: Inducers of Differentiation or Apoptosis of Transformed Cells," <i>J. Natl. Cancer Inst.</i> , 2000, 92:1210-1216

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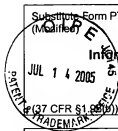
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Substitute Disclosure Form (PTO 1449)

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Submission Form PTO-1449 (Mandatory) <b>Information Disclosure Statement</b> by Applicant (Use several sheets if necessary)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 18115-002US1	Application No. 10/505,380
		Applicant Minoru Yoshida et al.	
		Filing Date August 20, 2004	Group Art Unit 1615


**Other Documents (include Author, Title, Date, and Place of Publication)**

Examiner Initial	Desig. ID	Document
	AOO	Matsuyama et al., " <i>In vivo</i> destabilization of dynamic microtubules by HDAC6-mediated deacetylation," <u>EMBO J.</u> , 2002, 21(24):6820-6831
	APP	Meinke et al., "Synthesis of side chain modified apicidin derivatives: potent mechanism-based histone deacetylase inhibitors," <u>Tetrahedron Letters</u> , 2000, 41:7831-7835
	AQQ	McKinsey et al., "Signal-dependent nuclear export of a histone deacetylase regulates muscle differentiation," <u>Nature</u> , 2000, 408:106-111
	ARR	Minucci et al., "A histone deacetylase inhibitor potentiates retinoid receptor action in embryonal carcinoma cells," <u>Proc. Natl. Acad. Sci. USA</u> , 1997, 94(21):11295-11300
	ASS	Munster et al., "The Histone Deacetylase Inhibitor Suberoylanilide Hydroxamic Acid Induces Differentiation of Human Breast Cancer Cells," <u>Cancer Research</u> , 2001, 61(23):8492-8497
	ATT	Nakajima et al., "FR901228, a Potent Antitumor Antibiotic, Is a Novel Histone Deacetylase Inhibitor," <u>Exp. Cell Res.</u> , 1998, 241(1):126-133
	AUU	Nan et al., "Transcriptional repression by the methyl-CpG-binding protein MeCP2 involves a histone deacetylase complex," <u>Nature</u> , 1998, 393(6683):386-389
	AVV	Petti et al., "Complete remission through blast cell differentiation in <i>PLZF/RARA</i> -positive acute promyelocytic leukemia: in vitro and in vivo studies," <u>Blood</u> , 2002, 100(3):1065-1067
	AWW	Primeau et al., "Synergistic Antineoplastic Action of DNA Methylation Inhibitor 5-AZA-2'-Deoxycytidine and Histone Deacetylase Inhibitor Depsipeptide on Human Breast Carcinoma Cells," <u>Int. J. Cancer</u> , 2003, 103:177-184
	AXX	Saito et al., "A synthetic inhibitor of histone deacetylase, MS-27-275, with marked <i>in vivo</i> antitumor activity against human tumors," <u>Proc. Natl. Acad. Sci. USA</u> , 1999, 96(8):4592-4597
	AYY	Verdel and Khochbin, "Identification of a New Family of Higher Eukaryotic Histone Deacetylases," <u>J. Biol. Chem.</u> , 1999, 274(4):2440-2445
	AZZ	Verdel et al., "Active maintenance of mHDA2/mHDAC6 histone-deacetylase in the cytoplasm," <u>Current Biology</u> , 2000, 10:1-3
	AAAA	Wang et al., "Inhibitors of Histone Deacetylase Relieve ETO-mediated Repression and Induce Differentiation of AML1-ETO Leukemia Cells," <u>Cancer Research</u> , 1999, 59(12):2766-2769
	ABBB	Yang et al., "Isolation and Characterization of cDNAs Corresponding to an Additional Member of the Human Histone Deacetylase Gene Family," <u>J. Biol. Chem.</u> , 1997, 272(44):28001-28007
	ACCC	Yoshida et al., "Potent and Specific Inhibition of Mammalian Histone Deacetylase Both <i>in Vivo</i> and <i>in Vitro</i> by Trichostatin A," <u>J. Biol. Chem.</u> , 1990, 265(28):17174-17179
	ADDD	Yoshida et al., "Trichostatin A and trapoxin : novel chemical probes for the role of histone acetylation in chromatin structure and function," <u>BioEssays</u> , 1995, 17(5):423-430
	AEEE	Yoshida et al., "Effects of Trichostatins on Differentiation of Murine Erythroleukemia Cells," <u>Cancer Research</u> , 1987, 47(14):3688-3691

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